

Developing a Near Real Time Monitoring System for Post Fire Vegetation Recovery for the Sierra Nevada, California, Phase I

Completed Technology Project (2018 - 2019)



Project Introduction

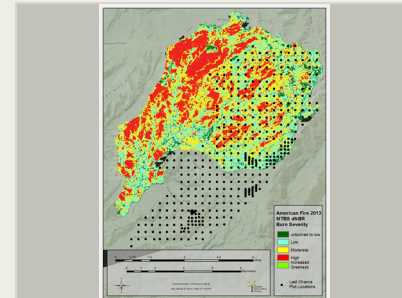
The Post Wildfire Recovery Monitoring System will provide land managers regular systematic updates on areas that have burned by wildfire, including changes in vegetation cover, vegetation type, and cover of bare soil, for any time period that data is available. This system will integrate operational and legacy Landsat data (1984-Present) and produce land cover information at a 30-meter spatial resolutions. The system provides near real time updates with which is approximately once every 16 days. The system will be available online for no charge, providing both public and private land managers with near real time information that may be used to better identify, plan, budget for, and execute post wildfire rehabilitation projects including post wildfire harvest, reforestation, revegetation, and other erosion control activities.

The system will allow to perform custom user-defined data summaries and statistics on their specific geographic area of interest by a polygon drawing tool or uploading a kml file or using pre-defined Hydrological Unit Code (HUC) watershed boundaries. Users will be able to create a personal account accessed by secure password. Special user accounts will allow to save data queries and trigger warnings when specific thresholds are exceeded. The technology we use will leverage experience of previous tool builds which include the EcoDash. By combining vegetation and bare soil cover, users will be able to determine how vegetation is recovering in watersheds with or without active management and erosion control, and which of those watersheds may be at risk to additional mass wasting, erosion, or other sedimentation.

Anticipated Benefits

Use of NASA generated LANDSAT imagery

Utilization by private and public land managers who work to mitigate wildfire and manage burned landscapes within their ownership



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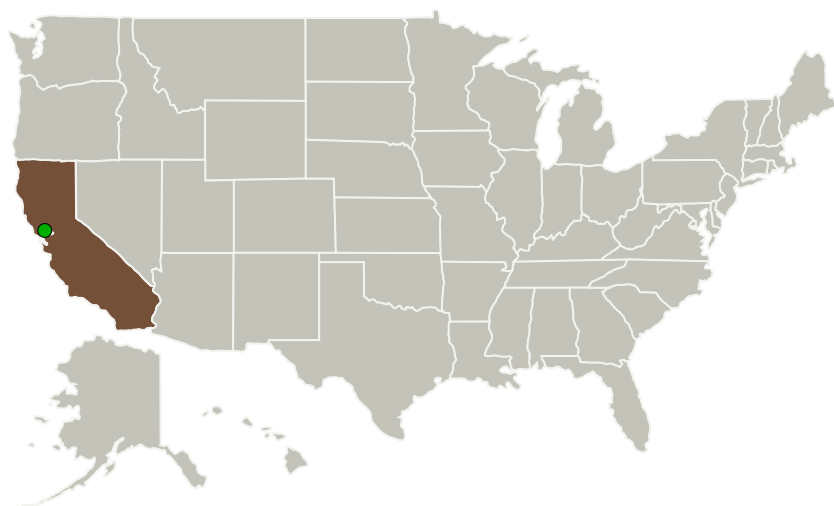
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Primary U.S. Work Locations and Key Partners



Organizations Performing Work	Role	Type	Location
Spatial Informatics Group	Lead Organization	Industry	Pleasanton, California
● Ames Research Center(ARC)	Supporting Organization	NASA Center	Moffett Field, California

Primary U.S. Work Locations

California

Project Transitions

July 2018: Project Start

February 2019: Closed out

Closeout Documentation:

- Final Summary Chart(<https://techport.nasa.gov/file/141010>)

Organizational Responsibility

Responsible Mission Directorate:

Space Technology Mission Directorate (STMD)

Lead Organization:

Spatial Informatics Group

Responsible Program:

Small Business Innovation Research/Small Business Tech Transfer

Project Management

Program Director:

Jason L Kessler

Program Manager:

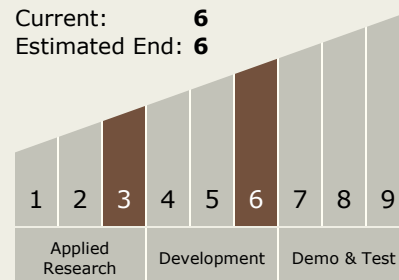
Carlos Torrez

Principal Investigator:

Gary Johnson

Technology Maturity (TRL)

Start: **3**
Current: **6**
Estimated End: **6**

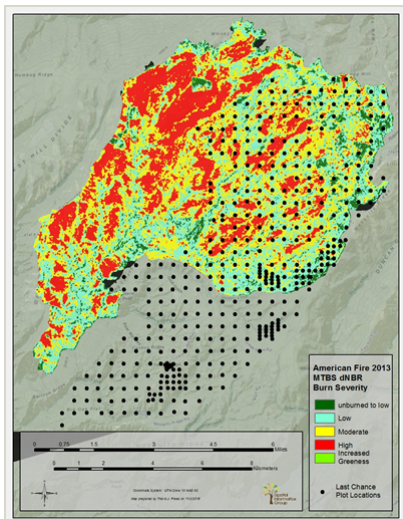


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Images



Briefing Chart Image

Developing a Near Real Time Monitoring System for Post Fire Vegetation Recovery for the Sierra Nevada, California, Phase I
(<https://techport.nasa.gov/image/133307>)



Final Summary Chart Image

Developing a Near Real Time Monitoring System for Post Fire Vegetation Recovery for the Sierra Nevada, California, Phase I
(<https://techport.nasa.gov/image/136756>)

Technology Areas

Primary:

- TX11 Software, Modeling, Simulation, and Information Processing
 - └ TX11.4 Information Processing
 - └ TX11.4.2 Intelligent Data Understanding

Target Destination

Earth